SEQUENCE LISTING

<110> Huston, James S.
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<120> BIOENGINEERED VEHICLES FOR TARGETED NUCLEIC ACID DELIVERY

<130> 23611-A USA

<140> As yet unassigned
<141> 2001-06-25

B2

<150> 60/213,653
<151> 2000-06-23

<160> 53

<170> PatentIn Ver. 3.1

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<211> 18
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<213> Homo sapiens

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1 5 10 15

Arg Arg

<210> 2
<211> 26
<212> PRT
<213> Homo sapiens

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1 5 10 15

Lys Ala Pro Lys Ser Pro Ala Lys Ala Lys
20 25

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<213> Adenovirus

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Ser Gly Pro Ser Asn Thr Pro Pro Glu Ile
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<210> 4
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<213> Human papillomavirus

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Arg Ala His Tyr Asn Ile Val Thr Phe
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<213> Human papillomavirus

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Thr Asp Leu Tyr Cys Tyr Glu Gln Leu Asn
1 5 10

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Ala Glu Pro Asp Arg Ala His Tyr Asn Ile
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<210> 7
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<213> Human papillomavirus

<400> 7
Lys Cys Asp Ser Thr Leu Arg Leu Cys Val Gln Ser Thr His Val Ile
1 5 10 15

Arg Thr Leu

<210> 8
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<400> 8
Gly Thr Leu Gly Ile Val Cys Pro Ile Cys
1 5 10

<210> 9
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<213> Epstein-Barr Virus

<400> 9
Asp Thr Pro Leu Ile Pro Leu Thr Ile Phe
1 5 10

<210> 10
<211> 15
<212> PRT
<213> Epstein-Barr Virus

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Pro Arg Ser Pro Thr Val Phe Tyr Asn Ile Pro Pro Met Pro Leu
1 5 10 15

<210> 11
<211> 9
<212> PRT
<213> Epstein-Barr Virus

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1 5

<210> 12
<211> 15
<212> PRT
<213> Epstein-Barr Virus

<400> 12

Arg Gly Ile Lys Glu His Val Ile Gln Asn Ala Phe Arg Lys Ala
1 5 10 15

<210> 13
<211> 10
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<213> Epstein-Barr Virus

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Glu Glu Asn Leu Leu Asp Phe Val Arg Phe
1 5 10

<210> 14
<211> 9
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<213> Epstein-Barr Virus

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Ile Val Thr Asp Phe Ser Val Ile Lys
1 5

<210> 15
<211> 9
<212> PRT
<213> Homo sapiens

<400> 15
Leu Leu Gly Arg Asn Ser Pro Glu Val
1 5

<210> 16
<211> 13
<212> PRT
<213> Murine sarcoma virus

<400> 16
Lys Leu Val Val Val Gly Ala Arg Gly Val Gly Lys Ser
1 5 10

<210> 17
<211> 12
<212> PRT
<213> Homo sapiens

<400> 17
Lys Leu Val Val Val Gly Ala Val Gly Val Gly Lys
1 5 10

<210> 18
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<212> PRT
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<400> 18
Asp Ile Leu Asp Thr Ala Gly Leu Glu Glu Tyr Ser Ala Met Arg Asp
1 5 10 15

<210> 19
<211> 8
<212> PRT
<213> Homo sapiens

<400> 19
Gly Leu Glu Glu Tyr Ser Ala Met
1 5

<210> 20
<211> 10
<212> PRT

<213> Homo sapiens

<400> 20
Glu Leu Val Ser Glu Phe Ser Arg Met Ala
1 5 10

<210> 21
<211> 15
<212> PRT
<213> Homo sapiens

<400> 21
His Leu Asp Met Leu Arg His Leu Tyr Gln Gly Cys Gln Val Val
1 5 10 15

<210> 22
<211> 15
<212> PRT
<213> Homo sapiens

<400> 22
Ser Arg Leu Leu Gly Ile Cys Leu Thr Ser Thr Val Gln Leu Val
1 5 10 15

<210> 23
<211> 9
<212> PRT
<213> Homo sapiens

<400> 23
Glu Ala Asp Pro Thr Gly His Ser Tyr
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<210> 24

<211> 10
<212> PRT
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<400> 24
Leu Leu Asp Gly Thr Ala Thr Leu Arg Leu
1 5 10

<210> 25
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<212> PRT
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Tyr Leu Glu Pro Gly Pro Val Thr Ala
1 5

<210> 26
<211> 9
<212> PRT
<213> Homo sapiens

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Met Leu Leu Ala Val Leu Tyr Cys Leu
1 5

<210> 27
<211> 9
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1 5

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<211> 9
<212> PRT
<213> Homo sapiens

<400> 28
Tyr Met Asn Gly Thr Met Ser Glu Val
1 5

<210> 29
<211> 21
<212> PRT
<213> Homo sapiens

<400> 29
Ala Ala Gly Ile Gly Ile Leu Thr Val Ile Leu Gly Val Leu Leu Leu
1 5 10 15

Ile Gly Cys Trp Tyr
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<210> 30
<211> 9
<212> PRT
<213> Simian virus 40

<400> 30
Thr Pro Pro Lys Lys Lys Arg Lys Val
1 5

<210> 31
<211> 14
<212> PRT
<213> Homo sapiens

<400> 31
Lys Lys Ser Ala Lys Lys Thr Pro Lys Lys Ala Lys Lys Pro
1 5 10

<210> 32
<211> 26
<212> PRT
<213> Homo sapiens

<400> 32
Ala Lys Lys Ala Lys Ser Pro Lys Lys Ala Lys Ala Ala Lys Pro Lys
1 5 10 15

Lys Ala Pro Lys Ser Pro Ala Lys Ala Lys
20 25

<210> 33
<211> 18
<212> PRT
<213> Homo sapiens

<400> 33
Ser Arg Ser Arg Tyr Tyr Arg Gln Arg Gln Arg Ser Arg Arg Arg Arg
1 5 10 15

Arg Arg

<210> 34
<211> 255
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Human/murine

chimeric single chain binding polypeptide (C6.5 sFv)

<400> 34

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Gln Val Gln Leu Leu Gln Ser Gly Ala Glu Leu Lys Lys Pro Gly Glu
 1               5                  10                  15

Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser Phe Thr Ser Tyr
            20                  25                  30

Trp Ile Ala Trp Val Arg Gln Met Pro Gly Lys Gly Leu Glu Tyr Met
        35                  40                  45

Gly Leu Ile Tyr Pro Gly Asp Ser Asp Thr Lys Tyr Ser Pro Ser Phe
    50                  55                  60

Gln Gly Gln Val Thr Ile Ser Val Asp Lys Ser Val Ser Thr Ala Tyr
65                  70                  75                  80

Leu Gln Trp Ser Ser Leu Lys Pro Ser Asp Ser Ala Val Tyr Phe Cys
                85                  90                  95

Ala Arg His Asp Val Gly Tyr Cys Ser Ser Ser Asn Cys Ala Lys Trp
            100                 105                 110

Pro Glu Tyr Phe Gln His Trp Gly Gln Gly Thr Leu Val Thr Val Ser
        115                 120                 125

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    130                 135                 140

Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Ala Ala Pro Gly Gln
145                 150                 155                 160

Lys Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Asn Asn
                165                 170                 175

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
            180                 185                 190
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B2 Cont

Ile Tyr Gly His Thr Asn Arg Pro Ala Gly Val Pro Asp Arg Phe Ser
195 200 205

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Phe Arg
210 215 220

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ala Trp Asp Asp Ser Leu
225 230 235 240

Ser Gly Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
245 250 255

<210> 35
<211> 765
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Human/murine chimeric single chain binding polypeptide (C6.5 sFv)

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tcctgtaagg gttctggata cagctttacc agctactgga tcgcctgggt gcgccagatg 120
cccgggaaag gcctggagta catggggctc atctatcctg gtgactctga caccaaatac 180
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ttgcaatgga gcagtctgaa gccctcggac agcgccgtgt atttttgtgc gagacatgac 300
gtgggatatt gcagtagttc caactgcgca aagtggcctg aatacttcca gcattggggc 360
cagggcaccc tggtcaccgt ctcctcaggt ggaggcggtt caggcggagg tggctctggc 420
ggtggcggat cgcagtctgt gttgacgcag ccgccctcag tgtctgcggc cccaggacag 480
aaggtcacca tctcctgctc tggaagcagc tccaacattg ggaataatta tgtatcctgg 540
taccagcagc tcccaggaac agcccccaaa ctcctcatct atggtcacac caatcggccc 600
gcaggggtcc ctgaccgatt ctctggctcc aagtctggca cctcagcctc cctggccatc 660
agtgggttcc ggtccgagga tgaggctgat tattactgtg cagcatggga tgacagcctg 720
agtggttggg tgttcggcgg agggaccaag ctgaccgtcc taggt 765

<210> 36
<211> 269
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Human/murine chimeric single chain binding polypeptide (C6ML3-9 sFv')

<400> 36

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Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Glu
  1               5                  10                  15

Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser Phe Thr Ser Tyr
             20                  25                  30

Trp Ile Ala Trp Val Arg Gln Met Pro Gly Lys Gly Leu Glu Tyr Met
         35                  40                  45

Gly Leu Ile Tyr Pro Gly Asp Ser Asp Thr Lys Tyr Ser Pro Ser Phe
     50                  55                  60

Gln Gly Gln Val Thr Ile Ser Val Asp Lys Ser Val Ser Thr Ala Tyr
 65                  70                  75                  80

Leu Gln Trp Ser Ser Leu Lys Pro Ser Asp Ser Ala Val Tyr Phe Cys
                 85                  90                  95

Ala Arg His Asp Val Gly Tyr Cys Ser Ser Ser Asn Cys Ala Lys Trp
            100                 105                 110

Pro Glu Tyr Phe Gln His Trp Gly Gln Gly Thr Leu Val Thr Val Ser
        115                 120                 125

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    130                 135                 140
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32 Cont

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Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Ala Ala Pro Gly Gln
145                 150                 155                 160

Lys Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Asn Asn
                165                 170                 175

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
            180                 185                 190

Ile Tyr Asp His Thr Asn Arg Pro Ala Gly Val Pro Asp Arg Phe Ser
        195                 200                 205

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Phe Arg
    210                 215                 220

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Asp Tyr Thr Leu
225                 230                 235                 240

Ser Gly Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Ala
                245                 250                 255

Ala Ala His His His His His His Gly Gly Gly Gly Cys
            260                 265
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<210> 37
<211> 807
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Human/murine chimeric single chain binding polypeptide (C6ML3-9 sFv')

<400> 37
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tcctgtaagg gttctggata cagctttacc agctactgga tcgcctgggt gcgccagatg 120

cccgggaaag gcctggagta catggggctc atctatcctg gtgactctga caccaaatac 180
agcccgtcct tccaaggcca ggtcaccatc tcagtcgaca agtccgtcag cactgcctac 240
ttgcaatgga gcagtctgaa gccctcggac agcgccgtgt atttttgtgc gagacatgac 300
gtgggatatt gcagtagttc caactgcgca aagtggcctg aatacttcca gcattggggc 360
cagggcaccc tggtcaccgt ctcctcaggt ggaggcggtt caggcggagg tggctctggc 420
ggtggcggat cgcagtctgt gttgacgcag ccgccctcag tgtctgcggc cccaggacag 480
aaggtcacca tctcctgctc tggaagcagc tccaacattg ggaataatta tgtatcctgg 540
taccagcagc tcccaggaac agcccccaaa ctcctcatct atgatcacac caatcggccc 600
gcaggggtcc ctgaccgatt ctctggctcc aagtctggca cctcagcctc cctggccatc 660
agtgggttcc ggtccgagga tgaggctgat tattactgtg cctcctggga ctacaccctc 720
tcgggctggg tgttcggcgg aggaaccaag ctgaccgtcc taggtgcggc cgcacaccat 780
catcaccatc acggtggtgg cggctgc 807

<210> 38
<211> 282
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Human/murine
chimeric single chain binding polypeptide
(C6ML-3-9sFv'-L1-KDEL)

B2 Cont

<400> 38

Gln	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	Pro	Gly	Glu
1				5				10					15		

Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Ser	Phe	Thr	Ser	Tyr
			20					25					30		

Trp	Ile	Ala	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	Leu	Glu	Tyr	Met
		35					40					45			

Gly	Leu	Ile	Tyr	Pro	Gly	Asp	Ser	Asp	Thr	Lys	Tyr	Ser	Pro	Ser	Phe
	50					55					60				

Gln	Gly	Gln	Val	Thr	Ile	Ser	Val	Asp	Lys	Ser	Val	Ser	Thr	Ala	Tyr
65					70					75					80

```
Leu Gln Trp Ser Ser Leu Lys Pro Ser Asp Ser Ala Val Tyr Phe Cys
                  85                  90                  95

Ala Arg His Asp Val Gly Tyr Cys Ser Ser Ser Asn Cys Ala Lys Trp
            100                 105                 110

Pro Glu Tyr Phe Gln His Trp Gly Gln Gly Thr Leu Val Thr Val Ser
        115                 120                 125

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    130                 135                 140

Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Ala Ala Pro Gly Gln
145                 150                 155                 160

Lys Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Asn Asn
                165                 170                 175

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
            180                 185                 190

Ile Tyr Asp His Thr Asn Arg Pro Ala Gly Val Pro Asp Arg Phe Ser
        195                 200                 205

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Phe Arg
    210                 215                 220

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Asp Tyr Thr Leu
225                 230                 235                 240

Ser Gly Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Ala
                245                 250                 255

Ala Ala His His His His His His Gly Gly Gly Gly Cys Leu Glu Ser
            260                 265                 270

Ser Ser Ser Gly Ser Glu Lys Asp Glu Leu
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275 280

<210> 39
<211> 846
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Human/murine
chimeric single chain binding polypeptide
(C6ML-3-9sFv'-L1-KDEL)

<400> 39
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tcctgtaagg gttctggata cagctttacc agctactgga tcgcctgggt gcgccagatg 120
cccgggaaag gcctggagta catggggctc atctatcctg gtgactctga caccaaatac 180
agcccgtcct tccaaggcca ggtcaccatc tcagtcgaca agtccgtcag cactgcctac 240
ttgcaatgga gcagtctgaa gccctcggac agcgccgtgt atttttgtgc gagacatgac 300
gtgggatatt gcagtagttc caactgcgca aagtggcctg aatacttcca gcattggggc 360
cagggcaccc tggtcaccgt ctcctcaggt ggaggcggtt caggcggagg tggctctggc 420
ggtggcggat cgcagtctgt gttgacgcag ccgccctcag tgtctgcggc cccaggacag 480
aaggtcacca tctcctgctc tggaagcagc tccaacattg ggaataatta tgtatcctgg 540
taccagcagc tcccaggaac agcccccaaa ctcctcatct atgatcacac caatcggccc 600
gcaggggtcc ctgaccgatt ctctggctcc aagtctggca cctcagcctc cctggccatc 660
agtgggttcc ggtccgagga tgaggctgat tattactgtg cctcctggga ctacaccctc 720
tcgggctggg tgttcggcgg aggaaccaag ctgaccgtcc taggtgcggc cgcacaccat 780
catcaccatc acggtggtgg cggctgcctc gagtcctcta gctctggatc cgaaaaagat 840
gaactg 846

<210> 40
<211> 287
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Human/murine
chimeric single chain binding polypeptide
(C6ML3-9sFv'-L2-KDEL)

<400> 40

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Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Glu
  1               5                  10                  15

Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser Phe Thr Ser Tyr
             20                  25                  30

Trp Ile Ala Trp Val Arg Gln Met Pro Gly Lys Gly Leu Glu Tyr Met
         35                  40                  45

Gly Leu Ile Tyr Pro Gly Asp Ser Asp Thr Lys Tyr Ser Pro Ser Phe
     50                  55                  60

Gln Gly Gln Val Thr Ile Ser Val Asp Lys Ser Val Ser Thr Ala Tyr
 65                  70                  75                  80

Leu Gln Trp Ser Ser Leu Lys Pro Ser Asp Ser Ala Val Tyr Phe Cys
                 85                  90                  95

Ala Arg His Asp Val Gly Tyr Cys Ser Ser Ser Asn Cys Ala Lys Trp
            100                 105                 110

Pro Glu Tyr Phe Gln His Trp Gly Gln Gly Thr Leu Val Thr Val Ser
        115                 120                 125

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    130                 135                 140

Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Ala Ala Pro Gly Gln
145                 150                 155                 160

Lys Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Asn Asn
                165                 170                 175

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
            180                 185                 190
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B2 Cont

Ile Tyr Asp His Thr Asn Arg Pro Ala Gly Val Pro Asp Arg Phe Ser
195 200 205

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Phe Arg
210 215 220

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Asp Tyr Thr Leu
225 230 235 240

Ser Gly Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Ala
245 250 255

Ala Ala His His His His His His Gly Gly Gly Gly Cys Leu Glu Ser
260 265 270

Ser Ser Ser Gly Ser Ser Ser Ser Gly Ser Glu Lys Asp Glu Leu
275 280 285

<210> 41
<211> 861
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Human/murine
chimeric single chain binding polypeptide
(C6ML3-9sFv'-L2-KDEL)

<400> 41
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tcctgtaagg gttctggata cagctttacc agctactgga tcgcctgggt gcgccagatg 120
cccgggaaag gcctggagta catggggctc atctatcctg gtgactctga caccaaatac 180
agcccgtcct tccaaggcca ggtcaccatc tcagtcgaca agtccgtcag cactgcctac 240
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gtgggatatt gcagtagttc caactgcgca aagtggcctg aatacttcca gcattggggc 360
cagggcaccc tggtcaccgt ctcctcaggt ggaggcggtt caggcggagg tggctctggc 420
ggtggcggat cgcagtctgt gttgacgcag ccgccctcag tgtctgcggc cccaggacag 480

aaggtcacca tctcctgctc tggaagcagc tccaacattg ggaataatta tgtatcctgg 540
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tcgggctggg tgttcggcgg aggaaccaag ctgaccgtcc taggtgcggc cgcacaccat 780
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ggatccgaaa aagatgaact g 861

<210> 42
<211> 296
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Human/murine
chimeric single chain binding polypeptide
(C6ML3-9sFv'-L2-H14)

<400> 42

Gln	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	Pro	Gly	Glu
1				5				10					15		

Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Ser	Phe	Thr	Ser	Tyr
			20					25					30		

Trp	Ile	Ala	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	Leu	Glu	Tyr	Met
		35					40					45			

Gly	Leu	Ile	Tyr	Pro	Gly	Asp	Ser	Asp	Thr	Lys	Tyr	Ser	Pro	Ser	Phe
	50					55					60				

Gln	Gly	Gln	Val	Thr	Ile	Ser	Val	Asp	Lys	Ser	Val	Ser	Thr	Ala	Tyr
65				70					75						80

Leu	Gln	Trp	Ser	Ser	Leu	Lys	Pro	Ser	Asp	Ser	Ala	Val	Tyr	Phe	Cys
				85					90					95	

Ala	Arg	His	Asp	Val	Gly	Tyr	Cys	Ser	Ser	Ser	Asn	Cys	Ala	Lys	Trp
			100					105					110		

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Pro Glu Tyr Phe Gln His Trp Gly Gln Gly Thr Leu Val Thr Val Ser
        115                 120                 125

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    130                 135                 140

Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Ala Ala Pro Gly Gln
145                 150                 155                 160

Lys Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Asn Asn
                165                 170                 175

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
            180                 185                 190

Ile Tyr Asp His Thr Asn Arg Pro Ala Gly Val Pro Asp Arg Phe Ser
        195                 200                 205

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Phe Arg
    210                 215                 220

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Asp Tyr Thr Leu
225                 230                 235                 240

Ser Gly Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Ala
                245                 250                 255

Ala Ala His His His His His His Gly Gly Gly Gly Cys Leu Glu Ser
            260                 265                 270

Ser Ser Ser Gly Ser Ser Ser Ser Gly Ser Lys Lys Ser Ala Lys Lys
        275                 280                 285

Thr Pro Lys Lys Ala Lys Lys Pro
    290                 295
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B2 Cont

<210> 43
<211> 888
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Human/murine
chimeric single chain binding polypeptide
(C6ML3-9sFv'-L2-H14)

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cccgggaaag gcctggagta catggggctc atctatcctg gtgactctga caccaaatac 180
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gtgggatatt gcagtagttc caactgcgca aagtggcctg aatacttcca gcattggggc 360
cagggcaccc tggtcaccgt ctcctcaggt ggaggcggtt caggcggagg tggctctggc 420
ggtggcggat cgcagtctgt gttgacgcag ccgccctcag tgtctgcggc cccaggacag 480
aaggtcacca tctcctgctc tggaagcagc tccaacattg ggaataatta tgtatcctgg 540
taccagcagc tcccaggaac agcccccaaa ctcctcatct atgatcacac caatcggccc 600
gcaggggtcc ctgaccgatt ctctggctcc aagtctggca cctcagcctc cctggccatc 660
agtgggttcc ggtccgagga tgaggctgat tattactgtg cctcctggga ctacaccctc 720
tcgggctggg tgttcggcgg aggaaccaag ctgaccgtcc taggtgcggc cgcacaccat 780
catcaccatc acggtggtgg cggctgcctc gagtctagca gctccggttc ctctagctct 840
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<210> 44
<211> 291
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Human/murine
chimeric single chain binding polypeptide
(C6ML3-9sFv'-L2-nls)

<400> 44

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Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser Phe Thr Ser Tyr
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Trp Ile Ala Trp Val Arg Gln Met Pro Gly Lys Gly Leu Glu Tyr Met
        35                  40                  45

Gly Leu Ile Tyr Pro Gly Asp Ser Asp Thr Lys Tyr Ser Pro Ser Phe
    50                  55                  60

Gln Gly Gln Val Thr Ile Ser Val Asp Lys Ser Val Ser Thr Ala Tyr
65                  70                  75                  80

Leu Gln Trp Ser Ser Leu Lys Pro Ser Asp Ser Ala Val Tyr Phe Cys
                85                  90                  95

Ala Arg His Asp Val Gly Tyr Cys Ser Ser Ser Asn Cys Ala Lys Trp
            100                 105                 110

Pro Glu Tyr Phe Gln His Trp Gly Gln Gly Thr Leu Val Thr Val Ser
        115                 120                 125

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    130                 135                 140

Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Ala Ala Pro Gly Gln
145                 150                 155                 160

Lys Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Asn Asn
                165                 170                 175

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
            180                 185                 190

Ile Tyr Asp His Thr Asn Arg Pro Ala Gly Val Pro Asp Arg Phe Ser
        195                 200                 205
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Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Phe Arg
210 215 220

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Asp Tyr Thr Leu
225 230 235 240

Ser Gly Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Ala
245 250 255

Ala Ala His His His His His His Gly Gly Gly Gly Cys Leu Glu Ser
260 265 270

Ser Ser Ser Gly Ser Ser Ser Ser Gly Ser Thr Pro Pro Lys Lys Lys
275 280 285

Arg Lys Val
290

<210> 45
<211> 873
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Human/murine chimeric single chain binding polypeptide (C6ML3-9sFv'-L2-nls)

<400> 45
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cccgggaaag gcctggagta catggggctc atctatcctg gtgactctga caccaaatac 180
agcccgtcct tccaaggcca ggtcaccatc tcagtcgaca agtccgtcag cactgcctac 240
ttgcaatgga gcagtctgaa gccctcggac agcgccgtgt atttttgtgc gagacatgac 300
gtgggatatt gcagtagttc caactgcgca aagtggcctg aatacttcca gcattggggc 360
cagggcaccc tggtcaccgt ctcctcaggt ggaggcggtt caggcggagg tggctctggc 420
ggtggcggat cgcagtctgt gttgacgcag ccgccctcag tgtctgcggc cccaggacag 480

aaggtcacca tctcctgctc tggaagcagc tccaacattg ggaataatta tgtatcctgg 540
taccagcagc tcccaggaac agcccccaaa ctcctcatct atgatcacac caatcggccc 600
gcaggggtcc ctgaccgatt ctctggctcc aagtctggca cctcagcctc cctggccatc 660
agtgggttcc ggtccgagga tgaggctgat tattactgtg cctcctggga ctacaccctc 720
tcgggctggg tgttcggcgg aggaaccaag ctgaccgtcc taggtgcggc cgcacaccat 780
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<210> 46
<211> 5
<212> PRT
<213> artificial sequence

<220>
<223> cysteine-containing effector sequence

<400> 46

Gly Gly Gly Gly Cys
1 5

<210> 47
<211> 4
<212> PRT
<213> artificial sequence

<220>
<223> endoplasmic reticulum retention signal

<400> 47

Lys Asp Glu Leu
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<210> 48
<211> 15
<212> PRT
<213> artificial sequence

<220>
<223> linker sequence

<400> 48

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 49
<211> 15
<212> PRT
<213> artificial sequence

<220>
<223> linker sequence

<400> 49

Ser Ser Ser Ser Gly Ser Ser Ser Ser Gly Ser Ser Ser Ser Gly
1 5 10 15

<210> 50
<211> 11
<212> PRT
<213> artificial

<220>
<223> cysteine-containing effector sequence

<400> 50

His His His His His His Gly Gly Gly Gly Cys
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<210> 51
<211> 6
<212> PRT
<213> artificial sequence

<220>
<223> endoplasmic reticulum retention signal

<400> 51

Ser Glu Lys Asp Glu Leu

B2 Cancel

<210> 52
<211> 5
<212> PRT
<213> artificial sequence

<220>
<223> linker sequence

<400> 52

Ser Ser Ser Ser Gly
1 5

<210> 53
<211> 5
<212> PRT
<213> artificial sequence

<220>
<223> linker sequence

<400> 53

Gly Gly Gly Gly Ser
1 5